

- 17 -

WHAT IS CLAIMED IS:

1. A composition for use in analyzing one or more carbohydrates, the composition comprising:
 - a reducing agent;
 - 5 a derivatizing agent capable of forming one or more fluorescing carbohydrate derivatives from the one or more carbohydrates; and
 - dimethyl sulfoxide.
2. The composition of claim 1 wherein at least one of the carbohydrates is derived from a glycoprotein.
- 10 3. The composition of claim 1 wherein the reducing agent comprises a borohydride reducing agent.
4. The composition of claim 4 wherein the reducing agent comprises a cyanoborohydride reducing agent.
5. The composition of claim 1 wherein the derivatizing agent
15 comprises 9-aminopyrene-1,4,6-trisulfonic acid.
6. The composition of claim 1 further comprising a buffer.
7. The composition of claim 6 wherein the buffer comprises a buffering agent selected from the group consisting of citric acid and salts thereof, phosphoric acid and salts thereof, and combinations thereof.
- 20 8. The composition of claim 1 wherein the derivatizing agent is capable of forming one or more fluorescing carbohydrate derivatives that are detectable by laser-induced fluorescence.
9. A process for analyzing one or more carbohydrates, the process comprising:
 - 25 (a) contacting the one or more carbohydrates with a reducing agent, a derivatizing agent capable of covalent attachment to the one or more

- 18 -

carbohydrates to form one or more fluorescing carbohydrate derivatives, and dimethyl sulfoxide;

(b) separating at least one of the carbohydrate derivatives by electrophoresis; and

5 (c) detecting at least one of the carbohydrate derivatives.

10. The process of claim 9 wherein the contacting step includes contacting the one or more carbohydrates with a derivatizing agent comprising 9-aminopyrene-1,4,6-trisulfonic acid.

11. The process of claim 9 further comprising the step of heating
10 the one or more carbohydrates, the reducing agent, the derivatizing agent, and dimethyl sulfoxide.

12. The process of claim 9 further comprising the step of incubating a glycoprotein having associated with it the one or more carbohydrates, where the incubating step is selected from the group of steps consisting of:

15 (a) incubating the glycoprotein with trifluoroacetic acid;

(b) incubating the glycoprotein with an *N*-acetylneuraminic aldolase enzyme;

(c) incubating the glycoprotein with ammonium carbonate and acetic anhydride; and

20 (d) combinations thereof
to form the one of more carbohydrates.

13. The process of claim 9 wherein the detecting step includes detecting the one or more carbohydrates by laser-induced fluorescence.

14. The process of claim 9 wherein the separating step includes
25 separating at least one of the carbohydrate derivatives by capillary zone electrophoresis .

15. The process of claim 9 further comprising the step of adding an internal standard, and determining the amount of at least one of the carbohydrates relative to the internal standard.

- 19 -

16. The process of claim 15 wherein the adding step includes adding an internal standard comprising a carbohydrate.

17. The process of claim 15 wherein the adding step includes adding an internal standard comprising lactose.

5 18. The process of claim 9 further comprising the step of determining the amount of at least one of the carbohydrates relative to another one of the carbohydrates.

19. A kit for analyzing one or more carbohydrates by fluorescence comprising:

- 10 (a) a derivatizing agent capable of forming one or more fluorescing carbohydrate derivatives from the one or more carbohydrates, said derivatizing agent in a first solvent comprising an aqueous buffer having a predetermined pH; and
(b) a reducing agent in a second solvent comprising DMSO.

15 20. The kit of claim 19 wherein the reducing agent comprises a borohydride reducing agent.

21. The kit of claim 19 wherein the reducing agent comprises a cyanoborohydride reducing agent.

22. The kit of claim 19 wherein the aqueous buffer comprises a compound selected from the group consisting of citric acid and salts thereof,
20 phosphoric acid and salts thereof, and combinations thereof.

23. The kit of claim 19 wherein the derivatizing agent comprises 9-aminopyrene-1,4,6-trisulfonic acid.